DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-011326
Date Inspected: 17-Dec-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name:	See Below	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☐ Yes ☐ No ☑ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☐ Yes ☑ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:
CWI Inspectors: Mr. Liu Xiao Zhong, Mr. Liu Fu Wen, Mr. Wang Chen Qing

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG BAY 5

This QA Inspector observed Ms. Song Aiying, stencil 215689 is using flux cored welding procedure WPS-345-FCAW-3G(3F)-Repair to add weld material to extend the length of the cantilever beam that is to be installed at OBG Panel Point 85 in accordance with critical weld repair B-CWR948. This QA Inspector observed a welding current of approximately 200 amps and 24.0 volts and ZPMC QC Inspector Mr. Wang Liang is monitoring this welding. This QA Inspector used a 230 degree Celsius temperature indicating crayon on the base material on the opposite side of the plate where this welding had just been completed and the temperature indicating crayon melted, which indicates the base material is above 230 degrees Celsius. This QA Inspector asked Mr. Wang Liang if he is monitoring the maximum interpass temperature and he did not appear to have any equipment available to determine the interpass temperature, but he walked toward the back of bay #5 where he obtained a laser temperature indicating device which he used to confirm the temperature of the adjacent base material was in excess of 230 degrees Celsius. This QA Inspector requested that Mr. Wang Liang ask CWI Mr. Liu Fu Won to come to the location where this welding was taking place and once Mr. Liu Fu Won arrived, this

QA Inspector informed him that for the second day in a row Mr. Wang Liang did not appear to have a method of monitoring the weld interpass temperature. Mr. Liu Fu Won informed this QA Inspector that he will have Mr. Wang Liang monitor the maximum interpass temperature using laser temperature indicating equipment. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Ban Qiuyun, stencil 250353 is using flux cored welding procedure WPS-B-T-2232-TC-U5-F to make traveler rail weld 11TR3-115-014. This QA Inspector observed a welding current of approximately 310 amps and 30.7 volts and Ms. Ban Qiuyun appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Pan Ben Yung, stencil 067601, is using flux cored welding procedure WPS-B-T-2232-TC-U5-F to make traveler rail weld 10TR4-003-014. This QA Inspector observed a welding current of approximately 310 amps and 30.5 volts and Mr. Pan Ben Yung appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Yuanzheng, stencil 217185, is using flux cored welding procedure WPS-B-T-2232-TC-U5-F to make traveler rail weld 11TR3-020-014. This QA Inspector observed a welding current of approximately 295 amps and 31.1 volts and Mr. Li Yuanzheng appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Qing Tian, stencil 066359, is using flux cored welding procedure WPS-B-T-2232-TC-U5-F to make traveler rail weld 11TR3-020-014. This QA Inspector observed a welding current of approximately 280 amps and 31.1 volts and Mr. Li Yuanzheng appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

Tower Bay #10

This QA Inspector observed ZPMC welder Mr. Bi Chun stencil 040343 has recently used flux cored welding procedure WPS-345-FCAW-2G(2F)-Repair to make south tower lift 4 skin plate weld SSTL4-1B/L-3B. This QA Inspector verified Mr. Bi Chun appears to be is certified to make this weld. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 315 amps and 31.2 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

Tower Bay #11

This QA Inspector observed ZPMC welder Mr. Yin Guoqiang, stencil 058792 is using flux cored welding procedure WPS-B-T-2231-TC-U5-F to make weld WSD1-SPSA4-2-3A. This QA Inspector observed that the base material where the welding is being performed appears to have been preheated to a minimum of 180 degrees Celsius as required by the welding procedure. This QA Inspector measured a welding current of approximately 300 amps and 31.5 volts and Mr. Yin Guoqiang appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

Blast Shop #1

WELDING INSPECTION REPORT

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This QA Inspector and Caltrans QA Inspector Mr. Uketar Shrikant performed random visual inspections of the OBG internal ceiling and upper floor beam surfaces from panel point 61 to panel point 62 of OBG Segment 8AE as per ZPMC request number 2261. ZPMC has recently completed grit blasting of these areas and the steel surfaces are now mostly free of rust oxide and other contaminants that had previously obscured portions of the plate and weld surfaces. This QA Inspector visually observed approximately 50 locations that require grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections. The areas were marked with colored chalk and ZPMC will have workers remove the visually unacceptable areas with electric grinders and ZPMC will have a magnetic particle (MT) inspector perform MT of the arc strike removal areas after the grinding is completed.

Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer